

**INTEGRATED DISPOSAL FACILITY  
CHAPTER 6.0  
PROCEDURES TO PREVENT HAZARDS  
CHANGE CONTROL LOG**

Change Control Logs ensure that changes to this unit are performed in a methodical, controlled, coordinated, and transparent manner. Each unit addendum will have its own change control log with a modification history table. The “**Modification Number**” represents Ecology’s method for tracking the different versions of the permit. This log will serve as an up to date record of modifications and version history of the unit.

Modification History Table

Modification Date	Modification Number
11/23/2020	PCN-IDF-2020-05 (8C.2020.Q4)
06/20/2013	

This page intentionally left blank.

DRAFT

**INTEGRATED DISPOSAL FACILITY  
CHAPTER 6.0  
PROCEDURES TO PREVENT HAZARDS**

DRAFT

1  
2  
3  
4  
5

This page intentionally left blank.

DRAFT

**CHAPTER 6.0**  
**PROCEDURES TO PREVENT HAZARDS**

**TABLE OF CONTENTS**

6.0	Procedures to Prevent Hazards.....	5
6.1	Security .....	5
6.1.1	Security Procedures and Equipment.....	5
6.1.2	Waiver .....	5
6.2	Inspection Plan .....	5
6.2.1	General Inspection Requirements .....	6
6.2.2	Schedule for Remedial Action for Problems Revealed .....	7
6.2.3	Specific Process or Waste Type Inspection Requirements .....	7
6.3	Preparedness and Prevention Requirements.....	9
6.3.1	Pre-Active Life Preparedness and Prevention.....	9
6.3.2	Equipment Requirements .....	9
6.3.3	Internal Communication.....	9
6.3.4	External Communications .....	10
6.3.5	Emergency Equipment .....	10
6.3.6	Water for Fire Control.....	10
6.3.7	Aisle Spacing Requirements for Off-Specification Waste .....	10
6.4	Preventive Procedures, Structures, and Equipment.....	10
6.4.1	Container Handling Operations.....	10
6.4.2	Leachate Collection Units Handling Operations.....	11
6.4.3	Runoff .....	11
6.4.4	Water Supplies .....	11
6.4.5	Equipment and Power Failure .....	11
6.4.6	Personal Protection Equipment .....	11
6.5	Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste .....	12
6.6	Prevention of Releases to the Atmosphere.....	12

**FIGURE**

Figure 6-1	Integrated Disposal Facility Warning Signs.....	12
Figure 6-2	Typical Average Daily Action Leakage Rate Calculation .....	13

**TABLES**

Table 6-1 Container Storage Inspections .....	14
Table 6-2 Inspections During Pre-Active Life.....	14
Table 6-3 Inspections During Active Life .....	16

DRAFT

## **6.0 PROCEDURES TO PREVENT HAZARDS**

This chapter discusses security, inspection schedules, preparedness and prevention requirements, preventive procedures, structures, equipment, and prevention of reaction of ignitable, reactive, and incompatible waste at the Integrated Disposal Facility (IDF). The requirements in this chapter that address activities involving the receipt and disposal of dangerous waste as defined in Washington Administrative Code (WAC) 173-303-040 shall be applied during the Active Life of the IDF. Active Life of a facility means the period from the initial receipt of dangerous waste at the facility until the department receives certification of final closure (WAC 173-303-040). The requirements of this chapter that do not apply to receipt and disposal of dangerous waste as defined in WAC 173-303-040, shall be implemented by the Permittees during the Pre-Active Life of IDF. Pre-Active Life is not defined in the regulations, but refers to the facility maintenance period between final construction and the start of Active Life.

The IDF is designed and will be operated to minimize exposure of the general public and operating personnel to disposed waste. Shielding, contamination control, control of toxic or dangerous material, and safety and security procedures will be used to keep exposure as low as reasonably achievable (ALARA).

### **6.1 Security**

The following sections describe the security measures, equipment, and warning signs to be used to control entry to the IDF. A discussion of Hanford Facility security is provided in Attachment 3.

#### **6.1.1 Security Procedures and Equipment**

The following sections describe the 24-hour surveillance system, barrier, and warning signs to be used to provide security and control access to the IDF.

##### **6.1.1.1 24-Hour Surveillance System**

The Hanford Facility is a controlled-access area (refer to Attachment 3).

##### **6.1.1.2 Barrier and Means to Control Entry**

Because the IDF is located within the portion of the Hanford Facility controlled by the 24-hour surveillance system, WAC 173-303-310(2)(c) does not apply.

##### **6.1.1.3 Warning Signs**

Signs will be visible from all angles of approach, and legible from a distance of at least 7.6 meters. Each active area used for disposal will be posted with a sign, in English, reading, "Danger-Unauthorized Personnel Keep Out" or an equivalent legend. Figure 6-1 identifies the minimum number of signs posted along each segment of fence.

### **6.1.2 Waiver**

A waiver of the security procedures and equipment requirements for the IDF was not requested. Therefore, the requirements of WAC 173-303-310(1)(a) and (b) are not applicable.

## **6.2 Inspection Plan**

This section describes the method and schedule for inspections of the IDF. These inspections help to ensure that situations do not exist that might cause or lead to the release of waste to the environment, degradation of safety equipment and/or systems, or that might pose a threat to human health. Abnormal conditions identified by inspections must be corrected.

## 6.2.1 General Inspection Requirements

The content and frequency of inspections are described in this section. Inspection discrepancies are documented on inspection checklists and log sheets. The schedule and inspection records will be kept in the inspection logbooks and retained by the IDF operations personnel. Inspection records will be retained in accordance with Permit Condition II.I.1 and contain the following information:

- Date and time of inspection.
- Printed name and the handwritten signature of the inspector.
- Notation of the observations made.
- An account of spills or discharges in accordance with WAC 173-303-145.
- Date and nature of any repairs or remedial actions taken.

The inspection checklists consist of a listing of items that are assessed during each inspection. A yes/no response will be made for each listed item. A “yes” response means that the item is in compliance with the conditions stated on the checklist. Any problems identified during the inspection, as indicated by a “no” response on the checklist, will be reported immediately to the IDF operations supervisor.

### 6.2.1.1 Types of Problems

Types of problems looked for during an inspection in Pre-Active Life are in Table 6-2. Types of problems looked for during an inspection in Active Life are in Table 6-3. Once the IDF begins to receive dangerous waste, the requirements in Table 6-2 are no longer applicable. Each day mixed waste containers and/or bulk waste are handled within the IDF; an operator will perform a daily inspection of areas subject to spills (e.g., loading and unloading areas and waste handling areas).

### 6.2.1.2 Frequency of Inspections

Table 6-2 provides inspection frequencies during the Pre-Active Life. Tables 6-1, 6-2, and 6-3 provide inspection frequencies during the Active Life. For clarification, areas with operations that may result in spills are described below.

Each step in the waste placement operation occurs in the landfill over the double High Density Polyethylene (HDPE) liner system that provides containment of any spill from the waste handling operation.

Waste Handling Operations involve the following:

- Unloading of the waste shipment in the landfill.
- Placement of the cover soil over the waste container.

During Active Life, leachate<sup>1</sup> movement occurs within the double-contained leachate handling system. There is a potential for a leachate spill on the concrete containment slab of the Crest Pad Building, Leachate Transfer Building, and/or the Leachate ~~Loading~~ Truck Loading Station ~~Pad~~.

Leachate Handling Operations involve the following:

- Pumping leachate from the collection sumps to the Crest Pad Building.
- Activities within the Crest Pad Building.
- Transfer of leachate to and from the double-lined ~~Leachate Tanks~~ Leachate Collection Units (LCUs).

---

<sup>1</sup>WAC 173-303-040 defines “leachate” as any liquid, including any components suspended in the liquid that has percolated through or drained from dangerous waste.

- All activities that occur in the Leachate Transfer Building.
- Pumping of leachate to a tanker truck on the Truck Loading Station Pad.

Liquid handling operations involve the following:

- The Secondary Leak Detection System (SLDS) is similar to the Leak Detection System (LDS), except that it is equipped with liquid level indication instrumentation only. A low-capacity submersible pump can be inserted into the SLDS sump if required. Pumping of liquid from the collection sump to the small, portable container on the SLDS Pad may be required. Collected liquid in the SLDS that may be construction water and/or liquid from other sources.

(Note that the SLDS is not a design requirement of WAC 173-303-665, however United States Department of Energy (DOE) has added the design feature pursuant to its authority under the *Atomic Energy Act of 1954* (AEA) and not for the purposes of compliance with the dangerous waste regulations. Therefore, information regarding the design, construction, and operation of the SLDS is provided for information only. Pursuant to AEA, DOE has sole and exclusive responsibility and authority to regulate the source, special nuclear and by-product material component of radioactive mixed waste at DOE-owned nuclear facilities. Source, special nuclear and by-product materials, as defined by AEA, are not subject to regulation under Resource Conservation and Recovery Act (RCRA) or the Hazardous Waste Management Act, by the State of Washington and are not ~~be~~ subject to State dangerous waste permit, orders, or any other enforceable instrument issued there under. DOE recognizes that radionuclide data may be useful in the development and confirmation of geohydrologic conceptual models. Radionuclide data contained herein is therefore provided as a matter of comity so the information may be used for such purposes.)

## **6.2.2 Schedule for Remedial Action for Problems Revealed**

The operating organization will remedy any problems revealed by the inspection on a schedule that prevents hazards to human health and the environment. Where a hazard is imminent or already has occurred immediate action will be taken. Immediate actions will be implemented based on ALARA considerations, availability of supplies, equipment, and personnel.

## **6.2.3 Specific Process or Waste Type Inspection Requirements**

The following sections detail the inspections to be performed at the IDF.

### **6.2.3.1 Container Inspection**

On receipt, operations personnel will confirm appropriate documentation by inspecting each mixed wasted container for disposal and compliance with the container receipt inspection criteria (Chapter 3.0) before the mixed waste is placed in the IDF.

If present, off-specification waste and vitrified waste requiring cooling in storage will be subject to the specific items and/or problems noted during weekly container inspection (Table 6-1) include the following:

- Condition of trench floor and sides.
- Container structural integrity.
- Containers closed.
- At a minimum, 76.2 centimeters aisle spacing.
- Corrosion of containers.
- Evidence of spills or leaks.
- Container labels and markings in place, legible, and unobscured.
- Areas in and around stored waste are free of combustibles (e.g., tumbleweeds).
- Waste separations such as tape, rope, chain or other cordon mechanism are intact.

If present, transport vehicles containing off-specification waste or vitrified waste requiring cooling will be subject to the specific items and/or problems noted during weekly inspection include the following:

- Transport vehicle structural integrity.
- At a minimum, 76.2 centimeters aisle spacing between transporters.
- Evidence of spills or leaks.
- Areas in and around transport vehicles are free of combustibles (e.g. tumbleweeds).
- Separations such as tape, rope, chain or other cordon mechanism are intact.

Transport vehicles will not be subject to an individual container inspection within the transporter. Records of inspection will be maintained as detailed in Section 6.2.1.

### **6.2.3.2 Landfill Inspection**

The IDF will be inspected according to the frequencies in Table 6-2 during Pre-Active Life and in accordance with Table 6-3 during Active Life.

#### **6.2.3.2.1 Run-on and Runoff Control System**

A run-on control system is installed around the perimeter of each lined trench (Chapter 4.0). The system consists of a berm along the outer margin of each trench that prevents run-on from entering the trench. All run-on control system berms are inspected quarterly (Table 6-2) and after storms for signs of deterioration, malfunction, or improper operation. During Active Life, any precipitation that falls between the run-on control berm and the edge of the trench excavation eventually might flow into the primary leachate control and removal system sump and will be treated as leachate.

#### **6.2.3.2.2 Leak Detection System**

During Pre-Active Life, the LDS will be monitored quarterly and after storms (Table 6-2) for the amount of liquid removed. To calculate the action leakage rate, measurements are needed to be collected over five consecutive days each quarter. The action leakage rate will be determined for the quarter using these measurements collected during one five-day work week each quarter.

During Active Life (Table 6-3), leak detection for lined trench at the IDF is accomplished by the following:

- Monitoring liquid level above the secondary liner.
- Monitoring liquid levels above primary liner.
- Inspecting for the presence of liquids after significant precipitation events.
- Verifying certain gauges and instruments are in current calibration; calibration is performed annually or more frequently at intervals suggested by the manufacturer (Chapter 4.0, Section 4.3.7.4).
- Recording secondary sump levels on a daily action leakage rate calculation sheet (Figure 6-42).

If the action leakage rate (Chapter 4.0, Appendix 4C) has not been exceeded, the liner system will be functioning properly.

#### **6.2.3.2.3 Wind Dispersal Control System**

During Pre-Active Life, berms will be inspected quarterly and after storms to ensure the berms are functioning properly (Table 6-2).

During Active Life (Table 6-3), waste is inspected on receipt for evidence of damage, corrosion, or deterioration that might lead to dispersal of the contents.

Unpackaged or bulk waste with any potential for wind dispersal is covered or sprayed with fixative after being placed in a trench.

In addition, unpackaged or bulk waste handling operations are suspended in winds exceeding 24 kilometers per hour unless specifically approved by operations supervisors. The supervisor only would grant approval to operate in winds over 24 kilometers per hour after determining that the risk to human health or the environment would be diminished by completing the work activity, or that the nature and form of the waste handling activity was such that the wind speed would have no significant impact.

#### **6.2.3.2.4 Leachate Collection and Removal System**

During Pre-Active Life, the Leachate Collection and Removal System is inspected quarterly and after storms (Table 6-2) for the presence of liquids, and that the system is functioning properly.

During Active Life (Table 6-3), liquids in the Leachate Collection and Removal System and LDS are monitored daily to ensure the action leakage rate (Chapter 4.0, Appendix 4A) is not exceeded and will be inspected per Table 6-2. In addition, a flow meter is used to check if the amount of actual leachate pumped corresponds to the amount accumulated in the ~~leachate collection tank~~ LCU. This check will verify the proper function of the leachate collection and removal sump pumps with each use.

#### **6.2.3.3 Leachate Collection System**

The leachate collection system (LCS) is inspected in accordance with WAC 173-303-640(6), Tank systems, and -650(4)(b), Surface impoundments. During standard operation, leachate from a disposal cell is pumped through the Crest Pad Building and Leachate Transfer Building, and into the associated LCU. Leachate is then transferred to a tanker truck at the Truck Loading Station.

During Pre-Active Life, the Crest Pad Building, Leachate Transfer Building, and LCUs are inspected quarterly to verify the structure is in good condition and there is no evidence of leaks (Table 6-2).

During Active Life, the above ground portions of the system and tank level indicators are inspected daily. Leak detection and level sensor inspections occur annually (Table 6-3).

### **6.3 Preparedness and Prevention Requirements**

Section 6.3.1 describes the preparedness and prevention measures to be implemented during Pre-Active Life. Sections 6.3.2 through 6.3.7 describe the preparedness and prevention measures taken at the IDF during Active Life.

#### **6.3.1 Pre-Active Life Preparedness and Prevention**

During Pre-Active Life, the Permittees will comply with Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02) as applicable for a facility that does not contain dangerous waste. An emergency coordinator will be assigned to IDF who will manage and control all aspects of the initial facility response when an emergency occurs.

#### **6.3.2 Equipment Requirements**

The following sections describe the internal and external communications systems and the emergency equipment required.

#### **6.3.3 Internal Communication**

Immediate emergency instruction to personnel working at the IDF will be provided by cellular telephones.

#### 6.3.4 External Communications

Personnel at the IDF will have voice communication or equivalent (e.g., hand signals) during work assignments to maintain external communications with shift supervisors. Supervision will contact the Hanford Facility emergency telephone number (911) (373-3800 for cellular telephones) if assistance is needed in the field.

#### 6.3.5 Emergency Equipment

Emergency equipment will be available for use at the IDF. A list of equipment is included in the contingency plan (Addendum J.1, Pre-Active Life, and Addendum J.2, Active Life).

The Hanford Facility relies primarily on the Hanford Fire Department to control fires. Emergency equipment will not be located at IDF trenches. Portable fire extinguishers will be carried on IDF operations vehicles. Attachment 4, *Hanford Emergency Management Plan*, (DOE/RL-94-02) identifies the trained firefighting and emergency medical personnel and equipment.

#### 6.3.6 Water for Fire Control

- Hanford Fire Department trucks as described in Permit Attachment 4, *Hanford Emergency Management Plan*, (DOE/RL-94-02); and fire hydrants described in Addendum J.1 and Addendum J.2 supply water for fire control at the IDF.

#### 6.3.7 Aisle Spacing Requirements for Off-Specification Waste

Aisle spacing during off-specification and cooling vitrified waste storage operations is sufficient to allow the movement of personnel and fire protection equipment in and around the containers. This aisle spacing meets the requirements of WAC 173-303-340(3). Inspection aisle space must be at least 76.2 centimeters. During off-specification storage operations, rows of containers are placed no more than two containers wide in accordance with WAC 173-303-630(5)(c). Aisle spacing requirements will be applied to transport vehicles but not to the waste within the transport vehicles.

### 6.4 Preventive Procedures, Structures, and Equipment

The following sections will apply during the Active Life for the IDF and describe preventive procedures, structures, and equipment.

#### 6.4.1 Container HandlingUnloading Operations

Methods used to prevent release of waste during unloading operations will be employed as follows.

- Waste will be inspected according to the receipt inspection criteria (Chapter 3.0).
  - If waste fails the inspection, it will be designated as an off-specification waste and could be placed in the storage area or returned to the generator.
- Containers and bulk waste will be handled by appropriate equipment (i.e., crane) during unloading.
- Path from loading area to trench area will be clear of obstructions.

Spills will be managed as identified in the contingency plan (Addendum J.2).

Containers and bulk waste will be staged at the waste unloading area no longer than necessary for placement into the landfill. Administrative procedures may prevent immediate unloading and backfilling of waste containers. Containers might be left in the transporters as needed to resolve the administrative procedure requirements or to support the operational schedule before containers are placed into the landfill. The transfer vehicle containing vitrified waste requiring cooling may be temporarily placed in the storage area prior to unloading for disposal.

## **6.4.2 Leachate Collection Units Handling Operations**

As described in Chapter 4.0, "Process Information," transfer of leachate from the disposal cells to the LCUs is performed automatically under normal operations. Safeguards are in place that include leak detection and controls that automatically stop leachate transfer to prevent overflow of LCUs.

Transfer of leachate from the LCUs to the Truck Loading Station is completed manually. The Truck Loading Station is monitored during truck-filling operations. If a leak or spill occurs, filling is stopped immediately. Any spills would drain to the two sumps on the Truck Loading Station that leads to the combined sump. Spill kits will be used to contain any waste residue. Any dangerous waste generated as a result of a leak or spill will be managed in accordance with the requirements of WAC 173-303-145.

### **6.4.26.4.3 Runoff**

The waste in the IDF disposal cell will be placed below the land surface; thus, the disposal cell is designed to prevent runoff of precipitation that might have come in contact with the waste. The land surface is relatively level, so trenches have only internal drainage. The minimal amounts of precipitation that accumulate are contained within the trench.

The IDF trench is designed to channel run-on liquid away from the trench. Precipitation that percolates to the bottom of the trench is captured in the leachate collection and removal system and is managed as rainwater during Pre-Active Life. During Active Life, these liquids will be managed as multi-source leachate waste.

Each LCU is designed and installed to prevent run-on from entering the unit. The units' steel walls and aluminum dome covers prevent precipitation run-on from entering the unit. As no precipitation can enter the unit to contact the waste, no runoff can occur.

### **6.4.36.4.4 Water Supplies**

The design and operation of the IDF during Active Life is intended to minimize the generation of potentially contaminated leachate and to prevent leachate migration into groundwater resources in the local area. All activities performed during Active Life (Chapter 4.0) or Pre-Active Life is designed to protect local water supplies.

Activities that prevent contamination of water supplies or groundwater will include the following:

- Placement of waste in lined trenches.
- Run-on and runoff will be controlled.
- LDS will be used.
- Leachate will be collected and managed as waste.
- Inspections will be performed.
- Placement of backfill will occur after a layer of waste has been placed in the trench.

### **6.4.46.4.5 Equipment and Power Failure**

Electrical power is required for the landfill. Electricity supplies power to the sump pumps used to remove accumulated leachate from the primary and secondary liners. It also powers the equipment that is used to transfer the leachate to the LCUs. Electricity outages will be restored as soon as possible. Backup equipment will be acquired if necessary to provide electrical service. Failed equipment will be repaired or replaced as soon as possible.

### **6.4.56.4.6 Personal Protection Equipment**

Personnel will be trained in the use of applicable personal protection equipment. The protective clothing required for Active Life will vary depending on the form and content of the waste.

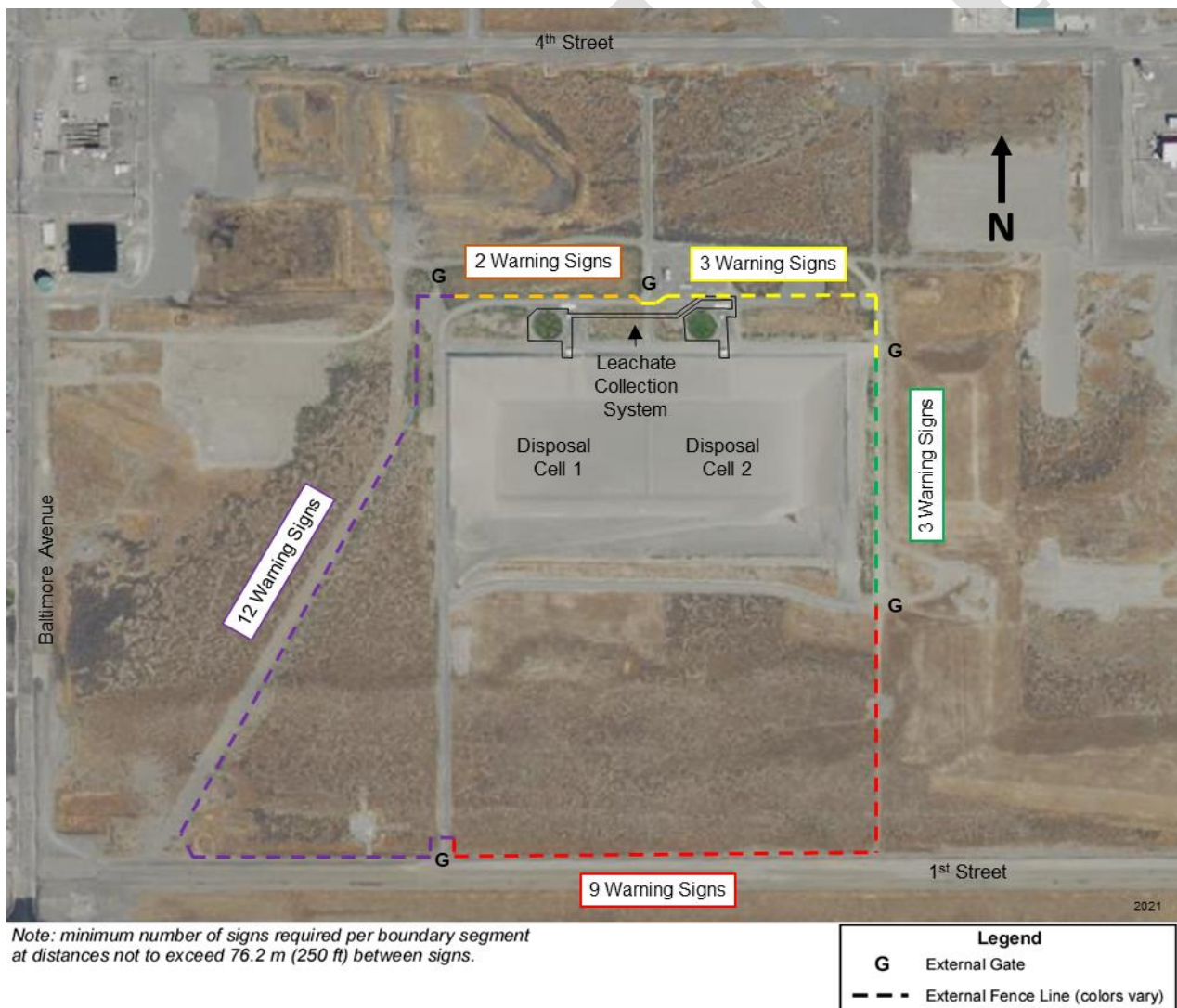
## 6.5 Prevention of Reaction of Ignitable, Reactive, and Incompatible Waste

The waste acceptance criteria will prohibit the disposal of ignitable, reactive, and incompatible waste at the IDF. Waste acceptance criteria (Chapter 3.0) will ensure that the required treatment has been performed before the waste is disposed in the IDF.

Waste stream compatibility (i.e., compatibility between individual waste streams and compatibility between waste streams and landfill design and construction parameters) will be assessed on a case-by-case basis. Criteria for assessing and determining compatibility will be identified in either the facility waste acceptance criteria, Waste Analysis Plan, or other protocol or procedure as appropriate (Chapter 3.0) for further discussion of waste stream compatibility.

## 6.6 Prevention of Releases to the Atmosphere

The LCUs have a dome cover that allows air venting to the environment. Based on the waste disposed in IDF, the resulting leachate is not anticipated to present an air emission hazard. The air emission standards in 40 Code of Federal Regulations (CFR) 264, Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities do not apply.



**Figure 6-1 Integrated Disposal Facility Warning Signs**



**Table 6-1 Container Storage Inspections**

Requirement Description	Inspection Frequency	Types of Problems
-630(6) Containers	Weekly	Leaking containers Deteriorating containers
-630(6) Containment system	Weekly	Deteriorating containment system
-395(1)(d) Ignitable or reactive waste	Not Applicable	Not Applicable

1

**Table 6-2 ~~Landfill~~ Inspections During Pre-Active Life\*\*\***

Requirement Description	Inspection Frequency	Types Of Problems
<b><u>Landfill Inspections</u></b>		
-665(4)(b)(i) Run-on and runoff control	Quarterly and after storms**a	Deterioration, malfunction, or improper operation
-665(4)(b)(ii) Wind dispersal control systems	Quarterly and after storms**a	Proper functioning
-665(4)(b)(iii) Leachate Collection and Removal Systems	Quarterly and after storms**a	Presence of liquids; proper functioning
-665(4)(c)(i) LDS sump	Quarterly and after storms**a	Amount of liquids removed
SLDS sump**b	Quarterly**b	Presence of unexpected liquid volume**b
Security “Danger-Unauthorized Personnel Keep Out” signs	Quarterly	Signs are posted and legible
Areas subject to spills	Daily when any activities may take place that have a potential for a spill or release to occur	Evidence of spills

**Table 6-2 ~~Landfill~~ Inspections During Pre-Active Life\*\*\***

Requirement Description	Inspection Frequency	Types Of Problems
<b><u>LCS Inspections</u></b>		
<u>CPB</u>	<u>Quarterly and after storms<sup>a</sup></u>	<u>Verify building structure is in good condition (e.g., no significant dents, damage, or rust). Verify floor and sump is clean and dry. Verify concrete coating is in good condition (e.g., no peeling, cracking, or scaling). Verify piping, fittings, instruments, and valves are water tight (i.e., no evidence of leaks). Check dangerous waste warning signs to ensure signs are in the proper locations, visible, and in good condition.</u>
<u>CPB Sump Leak Detection Sensor</u>	<u>Annual</u>	<u>Verify sensor is operable.</u>
<u>LTB</u>	<u>Quarterly and after storms<sup>a</sup></u>	<u>Verify building structure is in good condition (e.g., no significant dents, damage, or rust). Verify floor and sump is clean and dry. Verify concrete coating is in good condition (e.g., no peeling, cracking, or scaling). Verify piping, fittings, instruments, and valves are water tight (i.e., no evidence of leaks). Check dangerous waste warning signs to ensure signs are in the proper locations, visible, and in good condition.</u>
<u>LCU</u>	<u>Quarterly and after storms<sup>a</sup></u>	<u>Verify tank structure is in good condition (e.g., no significant dents, damage, or rust). Verify no evidence of leaks. Check dangerous waste warning signs to ensure signs are in the proper locations, visible, and in good condition.</u>
<u>LCU Level Switch High-High</u>	<u>Annual</u>	<u>Verify sensor is operable.</u>
<u>Combined Sump Pump Leak Detection Sensor</u>	<u>Annual</u>	<u>Verify sensor is operable.</u>

**Table 6-2 ~~Landfill~~ Inspections During Pre-Active Life<sup>\*\*\*</sup>**

Requirement Description	Inspection Frequency	Types Of Problems
-------------------------	----------------------	-------------------

CPB = Crest Pad Building

LCU = Leachate Collection Unit

LTB = Leachate Transfer Building

<sup>a</sup>A storm is any atmospheric disturbance with either wind gust of 56.3 kilometers per hour (35 miles per hour) or greater, or precipitation of 0.5 inch or greater within a 24-hour period.

<sup>b</sup>Note: SLDS is not a design requirement of WAC 173-303-665, however DOE is adding the design feature pursuant to its authority under the AEA and not for the purposes of compliance with the dangerous waste regulations. Therefore, formation regarding the design, construction, and operation of the SLDS is provided for information only. Pursuant to AEA, DOE has sole and exclusive responsibility and authority to regulate the source, special nuclear and by-product material component of radioactive mixed waste at DOE-owned nuclear facilities. Source, special nuclear and by-product materials, as defined by AEA, are not subject to regulation under RCRA or the Hazardous Waste Management Act, by the State of Washington and are not be subject to State dangerous waste permit, orders, or any other enforceable instrument issued there under. DOE recognizes that radionuclide data may be useful in the development and confirmation of geohydrologic conceptual models. Radionuclide data contained herein is therefore provided as a matter of comity so the information may be used for such purposes.

<sup>\*\*\*</sup>Note: Once the IDF begins to receive dangerous waste, the requirements in Table 6-2 are no longer applicable, and inspection requirements will be as provided in Table 6-3.

1

**Table 6-3 ~~Landfill~~ Inspections During Active Life**

Requirement Description	Inspection Frequency	Types Of Problems
<b><u>Landfill Inspections</u></b>		
-665(4)(b)(i) Run-on and runoff control	Weekly and after storms <sup>a</sup>	Deterioration, malfunction, or improper operation
-665(4)(b)(ii) Wind dispersal control systems	Weekly and after storms <sup>a</sup>	Proper functioning
-665(4)(b)(iii) Leachate Collection and Removal Systems	Weekly and after storms <sup>a</sup>	Presence of leachate; proper functioning
-665(4)(c)(i) LDS sump	Weekly and after storms <sup>a</sup>	Amount of liquids removed
SLDS sump <sup>b</sup>	Monthly <sup>b</sup>	Presence of unexpected liquid volume <sup>b</sup>
Security devices: “Danger-Unauthorized Personnel Keep Out” signs	Weekly	Signs are posted and legible
Areas subject to spills	Daily when waste management activities having a potential for a spill to occur	Evidence of spills

Table 6-3 ~~Landfill~~ Inspections During Active Life

Requirement Description	Inspection Frequency	Types Of Problems
<u>LCS Inspections</u>		
<u>CPB</u>	<u>Daily</u>	<u>Verify building structure is in good condition (e.g., no significant dents, damage, or rust). Verify floor and sump is clean and dry. Verify concrete coating is in good condition (e.g., no peeling, cracking, or scaling). Verify piping, fittings, instruments, and valves are water tight (i.e., no evidence of leaks). Check dangerous waste warning signs to ensure signs are in the proper locations, visible, and in good condition.</u>
<u>CPB Sump Leak Detection Sensor</u>	<u>Annual</u>	<u>Verify sensor is operable.</u>
<u>LTB</u>	<u>Daily</u>	<u>Verify building structure is in good condition (e.g., no significant dents, damage, or rust). Verify floor and sump is clean and dry. Verify concrete coating is in good condition (e.g., no peeling, cracking, or scaling). Verify piping, fittings, instruments, and valves are water tight (i.e., no evidence of leaks). Check dangerous waste warning signs to ensure signs are in the proper locations, visible, and in good condition.</u>
<u>LCU</u>	<u>Daily</u>	<u>Verify tank structure is in good condition (e.g., no significant dents, damage, or rust). Verify no evidence of leaks. Check dangerous waste warning signs to ensure signs are in the proper locations, visible, and in good condition.</u>
<u>LCU Level Switch High-High</u>	<u>Annual</u>	<u>Verify sensor is operable.</u>
<u>LCU Level Indicator</u>	<u>Daily</u>	<u>Monitor and record leachate collection tank level.</u>
<u>Combined Sump Pump Leak Detection Sensor</u>	<u>Annual</u>	<u>Verify sensor is operable.</u>

**Table 6-3 ~~Landfill~~ Inspections During Active Life**

Requirement Description	Inspection Frequency	Types Of Problems
<u>Combined Sump<sup>c</sup></u>	<u>Weekly</u>	<u>Monitor and record including amount of liquids removed from sump.</u>
<u>Transfer pipe sumps</u>	<u>Weekly<sup>d</sup></u>	<u>Verify no evidence of leaks.</u>
<u>LCU Tank Integrity Assessment</u>	<u>10-years<sup>e</sup></u>	<u>Verify tank structure is in good condition (e.g., no significant dents, damage, or rust).</u> <u>Verify no evidence of leaks or other indicators of structural damage.</u>

CPB = Crest Pad Building

LCU = Leachate Collection Unit

LTB = Leachate Transfer Building

<sup>a</sup>A storm is any atmospheric disturbance with either wind gust of 56.3 kilometers per hour (35 miles per hour) or greater, or precipitation of 0.5 inch or greater within a 24-hour period.

<sup>b</sup>Note: SLDS is not a design requirement of WAC 173-303-665, however DOE is adding the design feature pursuant to its authority under the AEA and not for the purposes of compliance with the dangerous waste regulations. Therefore, formation regarding the design, construction, and operation of the SLDS is provided for information only. Pursuant to AEA, DOE has sole and exclusive responsibility and authority to regulate the source, special nuclear and by-product material component of radioactive mixed waste at DOE-owned nuclear facilities. Source, special nuclear and by-product materials, as defined by AEA, are not subject to regulation under RCRA or the Hazardous Waste Management Act, by the State of Washington and are not be subject to State dangerous waste permit, orders, or any other enforceable instrument issued there under. DOE recognizes that radionuclide data may be useful in the development and confirmation of geohydrologic conceptual models. Radionuclide data contained herein is therefore provided as a matter of comity so the information may be used for such purposes.

<sup>c</sup>Weekly inspection meets the requirement of WAC 173-303-650, *Surface impoundments*. All other LCS inspections meet the requirement of WAC 173-303-640, *Tank systems*.

<sup>d</sup>This inspection will begin after leachate has been pumped through the transfer pipe.

<sup>e</sup>The frequency of tank integrity assessments will be based on the results of the previous integrity assessments, the age of equipment, materials of construction, characteristics of the waste, and any other relevant factors [WAC 173-303-640(2)]. There will be no more than 10-years between one integrity assessment and subsequent assessments. The frequency is subject to change throughout the lifetime of the tank.